

# Presenter Notes



- This presentation is part of a heat illness prevention workshop kit. It covers topics listed in the Heat Stress WRD 11.20:
  - “Safety training should include at a minimum:
    - The environmental and personal risk factors for heat stress;
    - The different types of heat stress and the common signs and symptoms of heat stress
    - The employer’s procedures for identifying, evaluating, and controlling exposure
    - The employer’s procedures for responding to symptoms of possible heat related illness, including a process to summon medical aid personnel.”

To address your specific worksite conditions and your company policies, be sure to add information indicated in slides # 17, 28 & 29.



# **Working Safely in Hot Environments**



June, 2006

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Your body's natural reactions to heat can reduce your comfort, safety, health, and performance. Heat stress is greatest when you are working hard and the weather is hot, and can affect many people before they notice.

We are concerned about the effects of heat, and we want you to be too. This presentation will help you protect yourself by presenting information on how to prevent heat illness.

## This training will cover:

- What heat illness is and why it is important
- Symptoms and treatment of heat illness
- How to prevent heat illness
- How our company addresses heat illness



What is heat  
illness and why  
is it important?

## **Heat illness is:**

- Overheating of the body
- Inability of the body to cool itself



## **– Why is it important to know about heat illness?**

- Heat illness is dangerous
- Heat illness can kill
- Heat illness is preventable

## Where does heat illness happen?

- Heat illness can affect anyone, anytime, indoors or outdoors, when it is hot. (usually 90 degrees or more).
- It can happen in logging, foundries, laundries, construction projects, landscaping, agriculture, bakeries, field work, etc.



Photo credit:  
<http://www.sullys.com.au/LawnMowing.htm>

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The higher the humidity, the hotter it feels and the greater the chances of heat illness occurring. In high humidity situations, heat illness can even occur at 85 degrees. Working in direct sunlight or with non-breathable or heavy clothing will increase the chance of heat illness. Individual susceptibility varies. Young, healthy fit persons are usually less susceptible than older, unfit or over-weight persons.

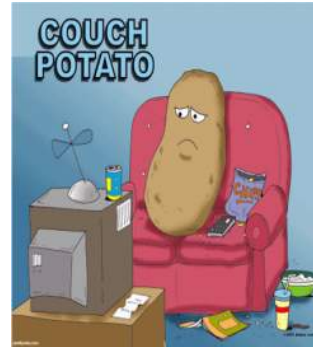
## What increases the risk of heat illness?

- Physical exertion - how hard you are working
- Working in direct sun or high humidity
- Amount of clothing you are wearing
- Little or no air movement
- Working near hot equipment



## What increases the risk of heat illness? (continued)

- Age, weight, and personal fitness
- Medical conditions
  - Heart conditions
  - Diabetes
  - Etc.
- Certain medications
  - See next slide



Age over 40, overweight, and poor fitness increase the risk of heat illness.

## Some medications can make you more sensitive to the effects of heat.

- ✓ Allergy medicines (antihistamines)
- ✓ Cough and cold medicines
- ✓ Blood pressure and heart medicines
- ✓ Irritable bladder or bowel medicines
- ✓ Laxatives
- ✓ Mental health medicines
- ✓ Seizure medicines
- ✓ Thyroid pills
- ✓ Water pills (diuretics)



A health care provider or pharmacist can tell you for sure.



What are the  
symptoms of  
heat illness?

## Types of Heat Illnesses

- There are five main kinds of heat illness:

- Heat rash – usually under clothing



- Fainting – can occur when person not used to heat

- Heat cramps – in arms or legs with physical labor

- Heat exhaustion – more serious effect



- Heat stroke – can be fatal

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## What are the most serious heat illnesses?

### Heat exhaustion and Heat stroke



Untreated **heat exhaustion** may progress to **heat stroke**.  
Symptoms of either should always be taken seriously

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Heat exhaustion and heat stroke occur when the body becomes dehydrated – loses too much water.

NOTE: pesticide poisoning and heat stroke have similar symptoms. This is more likely to occur in agriculture. If there is any doubt about the illness, get medical help immediately. Both pesticide poisoning and heat stroke can be life-threatening and require prompt treatment.

## What are the symptoms of heat exhaustion or heat stroke?

- Heavy sweating/moist skin
- Red/flushed, hot skin
- Dehydration
- Exhaustion, weakness
- Fainting/light headed
- Headache
- Nausea or vomiting
- Fast, weak pulse/ shallow breathing
- Panting/rapid breathing
- Clumsiness, dizziness
- Confusion or bizarre behavior
- Irritability
- Convulsions/seizures before or during cooling
- Collapse/fainting

Note: Heat exhaustion or heat stroke may develop over a few days.



Photo credit: [www.africaninspace.com](http://www.africaninspace.com)

# Heat Stroke or Heat Exhaustion?

How do you tell the difference??

**The telling difference is mental confusion/disorientation in ALL heat stroke victims.**

You can ask these 3 questions.

1. "What is your name?"
2. "What day is this?"
3. "Where are we?"

**If a worker can't answer these questions, assume it is heat stroke.**

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Typically, a person who is suffering heat stroke will stop sweating, but sometimes it can progress so quickly to heat stroke that the person may still be sweaty and be suffering heat stroke.



# How to Prevent Heat Illness

## Proper hydration is key to preventing heat illness

### DO

- ✓ Drink plenty of water
- ✓ Drink small amounts frequently
- ✓ Consider using sports drinks
- ✓ Start work well hydrated



### DO NOT

- ✓ Drink pop and other sugary drinks
- ✓ Drink lots of coffee and tea
- ✓ Drink alcohol
- ✓ Wait for thirst before drinking water



By “hydration” we mean drinking enough water. If you become dehydrated, heat illness can occur.

As a rule of thumb, drinking about one-half cup to one cup of water every 15 minutes or will prevent heat illness.

The most effective way for preventing heat stress is to steadily replenish the water that the body loses as sweat.

Drinking a large amount of water all at once after sweating heavily for a long time is not as effective and can even be dangerous.

## We will provide drinking water



Photo credit: UC Davis

Describe how water will be provided for workers here



Hydration pack



Worker wearing hydration pack

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When you drink a lot of water, you may need to use the bathroom more often. Bathroom facilities are available and you can use them as needed.

Note: WISHA standards require that drinking water is in a closeable container with a tap, is clearly marked, is suitably cool and individual cups are provide. Options include individual containers of water or hydration packs (sometimes called “camelbacks”)

## Preventing heat illness - Work Smart

- ✓ Schedule the hardest work for the cooler parts of the day
- ✓ Alternate heavy work with light work when possible.
- ✓ Take breaks if:
  - conditions are extremely hot; or
  - You are working physically hard;
  - You are wearing protective clothing that limits cooling from sweating
- ✓ Have a “buddy system” to keep an eye on each other for symptoms of heat illness such as confusion or weakness.



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Some people who are suffering from heat illness may not be aware of it and deny they are having any problems, which may be part of the confusion caused by the heat illness.

Frequency and duration of breaks is set by company policy (state what that is)

## Preventing heat illness – adjusting to the heat

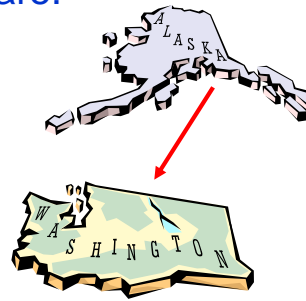
### Not being used to the heat

- People need to adjust (acclimate) to hot working conditions over a few days.



### You will need to acclimate if you are:

- ✓ a new employee
- ✓ just back from being sick
- ✓ absent for more than two weeks
- ✓ just moved from a cooler climate
- ✓ during any heat waves



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It takes most people 4 to 7 days to acclimatize or adjust to working in heat. You will lose acclimatization in a few weeks if you stop working in heat. You can acclimatize by drinking lots of water, adjusting your work pace, taking breaks if you start feeling overheated or ill, and have a buddy keeping an eye on you.

## Don't fall for these beliefs!

- ✓“I'm tough ~ I don't need a water break”
- ✓“I'm not thirsty ~ I don't need to drink”
- ✓“I'll lose pay if I take a water break”
- ✓“I'll be letting my team down”
- ✓“I'm new here ~ I need to prove myself”



**Don't be a superman – we want you healthy and productive**

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### POSSIBLE WORKPLACE DISCUSSIONS – IMPORTANT THAT LEADERS SUPPORT HEAT STRESS PREVENTION MEASURES

discussion of how protective gear can be inconvenient and uncomfortable - and how to minimize these problems;  
how economic and other pressures of crop production can cause employers and workers themselves to resist interrupting work, even when heat stress conditions become hazardous;

how some workers deliberately limit the amount of water they drink;

and how flexibility and the use of experience and good judgment are important when setting work/rest cycles.

#### **Real World of Agriculture**

- Have to get work done on time and budget
- Physically demanding jobs
- Unconditioned environments
- High temperatures and humidity
- PPE burden -- may cover face, scalp, torso
- Opportunities to drink water vary

#### **Why do people not replenish enough?**

- Impetus to drink
  - Thirst-driven
  - Some fears
  - Understanding of need and function
- Costs to access the water
  - Physical effort
  - Supervisory disapproval
  - Co-worker respect
  - Earnings opportunity

#### **What more can managers do?**

- Reduce various costs of access
- Help workers understand the physiology and recognize symptoms
- Support through foremen and culture

## Important!

**Stop** all activity if you become:

- ✓ Lightheaded
- ✓ Confused
- ✓ Weak
- ✓ Faint
- ✓ Or have a pounding heart or trouble breathing



Take a break and rest in a cool area or shade.

**Tell your supervisor if you or one of your coworkers experience these symptoms.**



What are the treatments for heat illness?

## What do you do if someone is suffering from heat exhaustion?

- ✓ Move person to cooler/shaded area to rest and if possible, lay the worker down.
- ✓ **Do not leave him or her alone.**
- ✓ Loosen and remove heavy clothing that restricts evaporation and cooling.
- ✓ Contact your first aid trained person



## What do you do if someone is suffering from heat exhaustion?

If worker is fully alert and not nauseated, provide cool water, or other fluids. (About a cup every 15 minutes).

Fan the person, spray/mist with cool water, or apply a wet cloth to his or her skin but if the worker begins to shiver, stop cooling.

Call 911 if person does not feel better in about 15 minutes.

Do not further expose the person to heat that day. They should rest and continue to drink water or sports drinks.



## What do you do if someone is suffering from heat stroke?

- ✓ **Get medical help immediately, call 911 and transport as soon as possible.**



**While you are waiting for medical help to arrive:**

- ✓ **Move the victim to a cool shaded area**
- ✓ **Remove clothing that restricts cooling.**
- ✓ **Cool down the victim any other way you can**

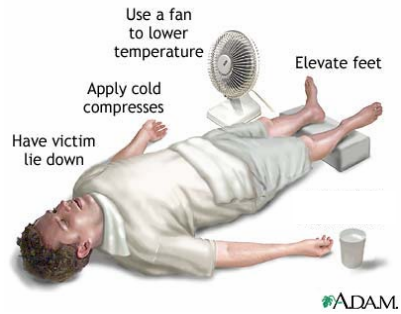
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A worker who becomes irrational or confused or collapses on the job should be considered a heat stroke victim, and medical help should be called immediately. Early recognition of symptoms and prompt emergency treatment is the key to aiding someone with heat stroke.

## Heat Stroke - cool the person rapidly using whatever methods you can

For example:

- Immerse the victim in a tub of cool water;
- Place the person in a cool shower;
- Spray the victim with cool water from a garden hose;
- Sponge the person with cool water;
- If the humidity is low, wrap the victim in a cool wet sheet and fan him or her vigorously;
- Apply ice packs under arms and to the groin area.



## Remember – to prevent heat illness:

- ✓ Drink water frequently !!
- ✓ Consider sports drinks
- ✓ Know the signs and symptoms of heat related illnesses and take them seriously
- ✓ Avoid alcohol, caffeinated drinks, and heavy meals before or during work.
- ✓ Work smart
- ✓ Acclimate
- ✓ Wear appropriate clothing
- ✓ Take regular breaks
- ✓ Keep an eye on your buddy!



Photo credit: [www.csao.org](http://www.csao.org)

## When heat stress can happen at this worksite

Describe what conditions may lead to heat stress at your worksite here – for example, during the day in the summer in our orchards when the temperature is above 95 degrees, on roofs in Seattle when it is above 90 degrees etc.

## Our procedures for contacting emergency medical services

Describe how this is to be done here.



# Questions?

